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□ Tentative Specification
□ Preliminary Specification
■ Approval Specification

MODEL NO.: V236BJ1
SUFFIX: L01

Customer:

APPROVED BY **SIGNATURE**

Name / Title _____ _____

Note

Please return 1 copy for your confirmation with your signature and comments.

Approved By	Checked By	Prepared By
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Ver. 2.0	Apr. 11,2012			V236BJ1-L01 Approval Specification was first issued

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1. GENERAL DESCRIPTION

1.1 OVERVIEW

V236BJ1-L01 is a 23.6" TFT Liquid Crystal Display module with 2-CCFL Backlight unit and 1ch-LVDS interface. This module supports 1366 x 768 HDTV format and can display 16.7M colors (8-bit).

1.2 FEATURES

- High brightness (250 nits)
- High contrast ratio (3000:1)
- Fast response time (Gray to gray average 8.5 ms)
- High color saturation (NTSC 72%)
- HDTV (1366 x 768 pixels) resolution, true HDTV format
- DE (Data Enable) only mode
- LVDS (Low Voltage Differential Signaling) interface
- Optimized response time for 60 Hz frame rate
- Viewing Angle: 176(H)/176(V) (CR>20) MVA Technology
- RoHs compliance

1.3 APPLICATION

- Personal TV /Public Display Application
- Home Theater Application
- MFM Application

1.4 GENERAL SPECIFICATIONS

Item	Specification	Unit	Note
Active Area	521.4705 (H) x 293.184 (V)	mm	(1)
Bezel Opening Area	525.22 (H) x 297.22 (V)	mm	
Driver Element	a-si TFT active matrix	-	-
Pixel Number	1366 x R.G.B. x 768	pixel	-
Pixel Pitch(Sub Pixel)	0.12725 (H) x 0.38175 (V)	mm	-
Pixel Arrangement	RGB vertical stripe	-	-
Power consumption	31.88 W (LVDS input Power 4.88 W + Backlight Power 27W)	Watt	(2)
Display Colors	16.7M	color	-
Display Operation Mode	Transmissive mode / Normally Black	-	-
Surface Treatment	Anti-Glare coating (Haze 3.5%),Hard coating (3H)	-	-

Note (1) Please refer to the attached drawings in chapter 11 for more information about the front and back outlines.

Note (2) Please refer sec 3.1 and 3.2 for more information of Power consumption

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1.5 MECHANICAL SPECIFICATIONS

Item		Min.	Typ.	Max.	Unit	Note
Module Size	Horizontal (H)	543.8	544.8	545.8	mm	(1)
	Vertical (V)	319.5	320.5	321.5	mm	(1)
	Depth (D)	50.7	51.7	52.7	mm	(1) To Boss
Weight		-	2300	-	g	-

Note (1) Please refer to the attached drawings for more information of front and back outline dimensions.

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2. ABSOLUTE MAXIMUM RATINGS

2.1 ABSOLUTE RATINGS OF ENVIRONMENT

Item	Symbol	Value		Unit	Note
		Min.	Max.		
Storage Temperature	TST	-20	+60	ºC	(1)
Operating Ambient Temperature	TOP	0	50	ºC	(1), (2)
Shock (Non-Operating)	SNOP	-	50	G	(3), (5)
Vibration (Non-Operating)	VNOP	-	1.0	G	(4), (5)

Note (1) Temperature and relative humidity range is shown in the figure below.

(a) 90 %RH Max. (Ta ≦ 40 ºC).

(b) Wet-bulb temperature should be 39 ºC Max. (Ta > 40 ºC).

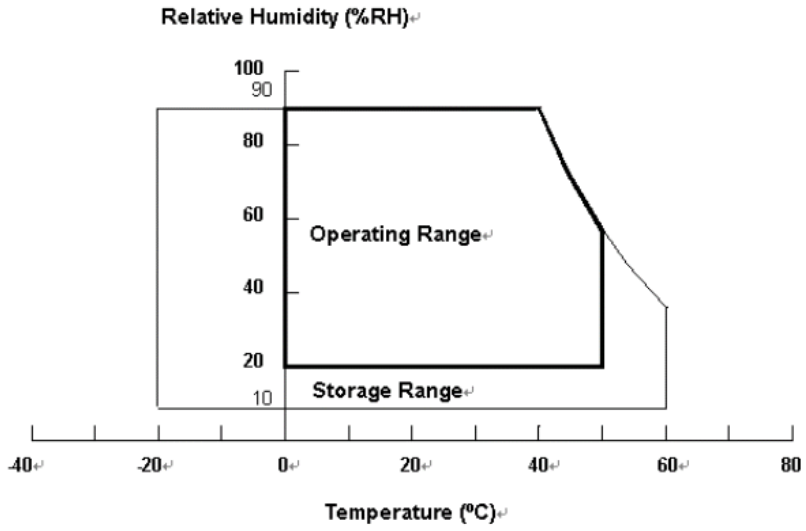
(c) No condensation.

Note (2) The maximum operating temperature is based on the test condition that the surface temperature of display area is less than or equal to 65 ºC with LCD module alone in a temperature controlled chamber. Thermal management should be considered in final product design to prevent the surface temperature of display area from being over 65 ºC. The range of operating temperature may degrade in case of improper thermal management in final product design.

Note (3) 11 ms, half sine wave, 1 time for ± X, ± Y, ± Z.

Note (4) 10 ~ 200 Hz, 10 min, 1 time each X, Y, Z.

Note (5) At testing Vibration and Shock, the fixture in holding the module has to be hard and rigid enough so that the module would not be twisted or bent by the fixture.



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2.2 PACKAGE STORAGE

When storing modules as spares for a long time, the following precaution is necessary.

(a) Do not leave the module in high temperature, and high humidity for a long time, It is highly recommended to store the module with temperature from 0 to 35 ℃ at normal humidity without condensation.

(b) The module shall be stored in dark place. Do not store the TFT-LCD module in direct sunlight or fluorescent light.

2.3 ELECTRICAL ABSOLUTE RATINGS

2.3.1 TFT LCD MODULE

Item	Symbol	Value		Unit	Note
		Min.	Max.		
Power Supply Voltage	VCC	-0.3	13.5	V	(1)
Logic Input Voltage	VIN	-0.3	3.6	V	

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3. ELECTRICAL CHARACTERISTICS

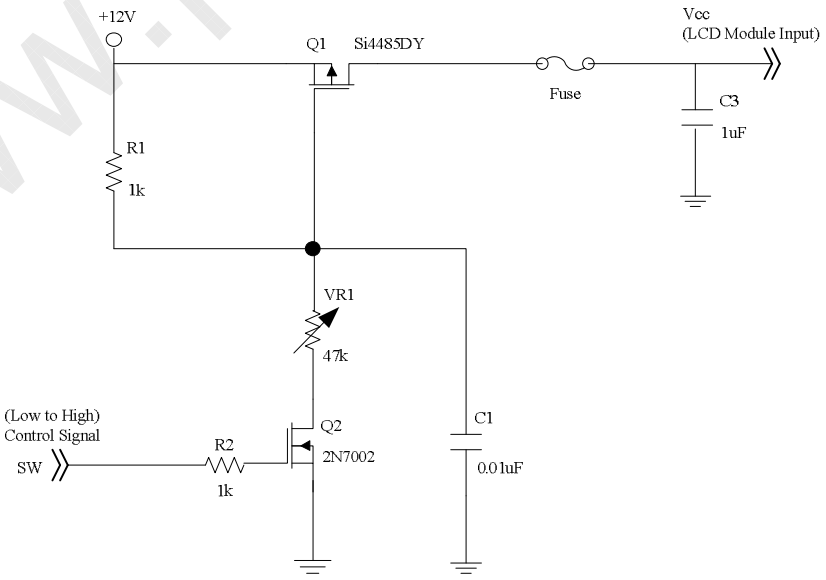
3.1 TFT LCD MODULE

(Ta = 25 ± 2 ºC)

Parameter		Symbol	Value			Unit	Note
			Min.	Typ.	Max.		
Power Supply Voltage		V_{CC}	10.8	12	13.2	V	(1)
Rush Current		I_{RUSH}	—	—	3.9	A	(2)
Power consumption		P_T	—	4.88	6.349	Watt	(3)
Power Supply Current	White Pattern	—	—	0.36	0.468	A	(4)
	Horizontal Stripe	—	—	0.37	0.481	A	
	Black Pattern	—	—	0.22	0.286	A	
LVDS interface	Differential Input High Threshold Voltage	V_{LVTH}	+100	—	—	mV	(5)
	Differential Input Low Threshold Voltage	V_{LVTL}	—	—	-100	mV	
	Common Input Voltage	V_{CM}	1.0	1.2	1.4	V	
	Differential input voltage (single-end)	$\|V_{ID}\|$	200	—	600	mV	
	Terminating Resistor	R_T	—	100	—	ohm	
CMIS interface	Input High Threshold Voltage	V_{IH}	2.7	—	3.3	V	
	Input Low Threshold Voltage	V_{IL}	0	—	0.7	V	

Note (1) The module should be always operated within the above ranges.

Note (2) Measurement condition:



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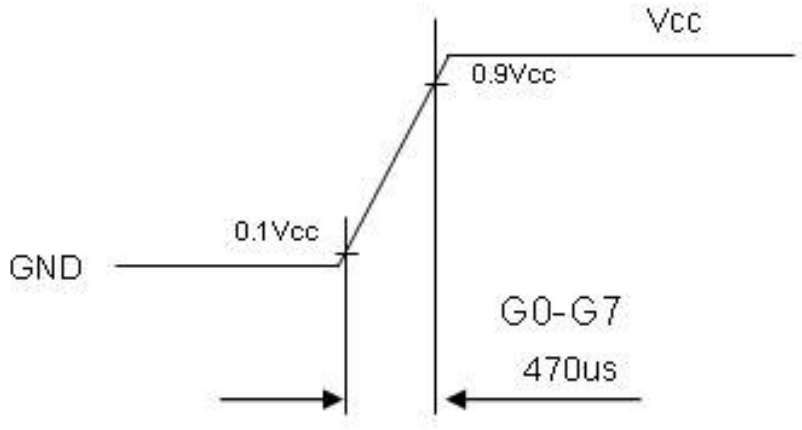
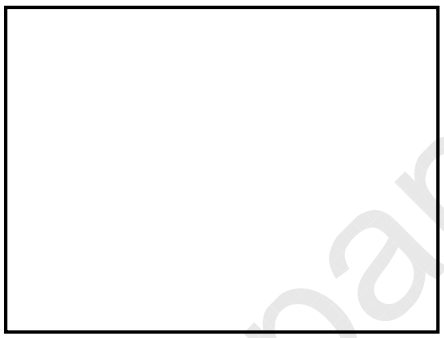
Vcc rising time is 470us



Note (3) The Specified Power consumption is under White pattern.

Note (4) The specified power supply current is under the conditions at Vcc = 12 V, Ta = 25 ± 2 ºC, f_v = 60 Hz, whereas a power dissipation check pattern below is displayed.

a. White Pattern

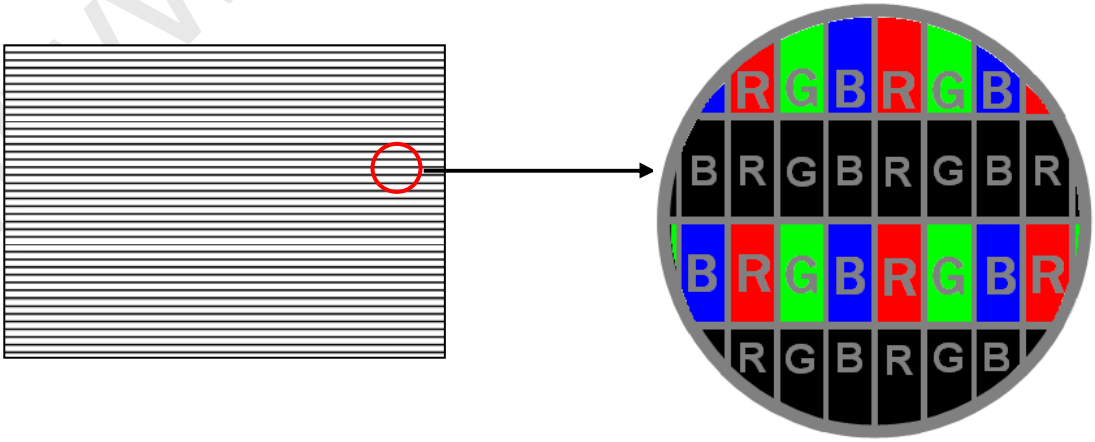


Active Area

b. Black Pattern

Active Area

c. Horizontal Pattern



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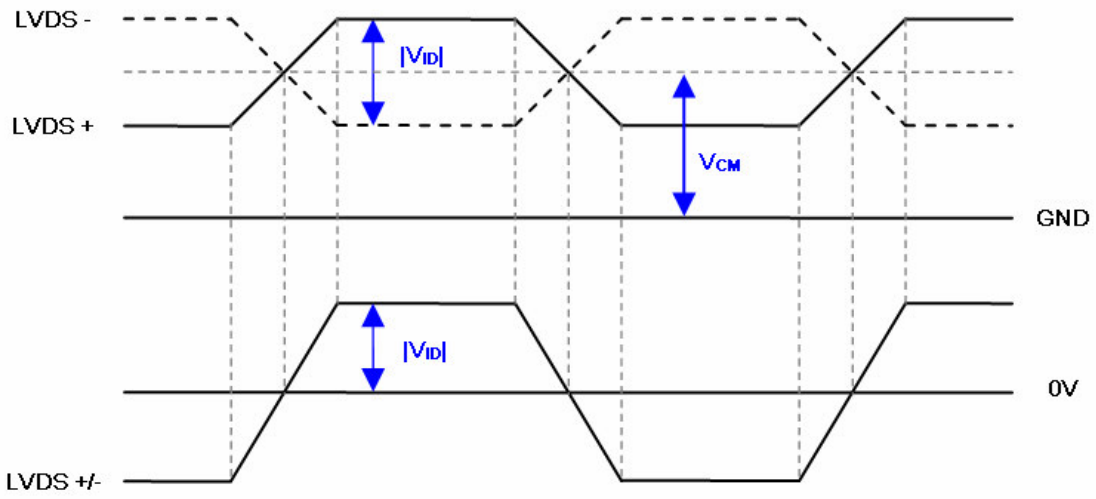
Note (5) The LVDS input characteristics are as follows :



3.2 BACKLIGHT CONNECTOR PIN CONFIGURATION

3.2.1 LAMP SPECIFICATION

(Ta = 25 ± 2 ºC)

Parameter	Symbol	Value			Unit	Note
		Min.	Typ.	Max.		
Lamp Input Voltage	V_L	972	1080	1188	V_{RMS}	I_L=12.5mA
Lamp Current	I_L	12	12.5	13	mA_{RMS}	(1)
Lamp Turn On Voltage	V_S	-	-	1910	V_{RMS}	(2) , Ta = 0 ºC
		-	-	1730	V_{RMS}	(2) , Ta = 25 ºC
Operating Frequency	F_O	30	-	80	KHz	(3)
Lamp Life Time	L_{BL}	50000	-	-	Hrs	(4)

Note (1) Lamp current is measured by utilizing AC current probe.

Note (2) The lamp starting voltage VS should be applied to the lamp for more than 1 second after startup. Otherwise the lamp may not be turned on.

Note (3) The lamp frequency may produce interference with horizontal synchronous frequency of the display input signals, and it may result in line flow on the display. In order to avoid interference, the lamp frequency should be detached from the horizontal synchronous frequency and its harmonics as far as possible.

Note (4) The life time of a lamp is defined as when the brightness is larger than 50% of its original value and the effective discharge length is longer than 80% of its original length (Effective discharge length is defined as an area that has equal to or more than 70% brightness compared to the

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brightness at the center point of lamp.) as the time in which it continues to operate under the condition at Ta = 25 ±2℃ and I_L = 12.0~13.0 mA_{RMS}.

Note (5) The IPI/IPB should design proper protection circuit to shut down if abnormal signals occurred of CNT/PT/FB.

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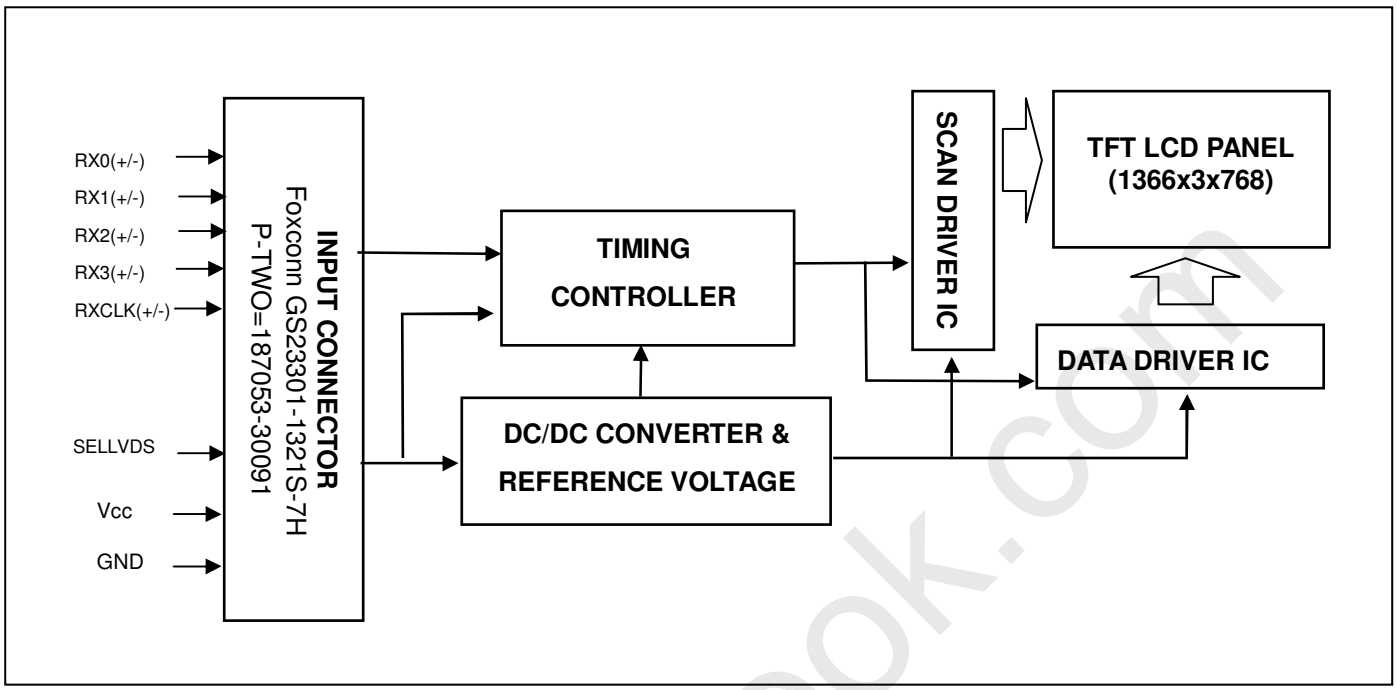
4. BLOCK DIAGRAM OF INTERFACE

4.1 TFT LCD MODULE



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5. INPUT TERMINAL PIN ASSIGNMENT

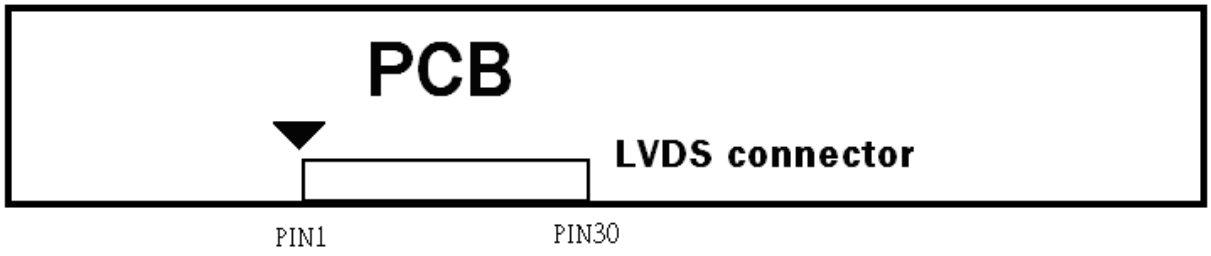
5.1 TFT LCD Module Input

Connector Pin Assignment

Pin	Name	Description	Remark
1	VCC	+12.0V power supply	
2	VCC	+12.0V power supply	
3	VCC	+12.0V power supply	
4	VCC	+12.0V power supply	
5	GND	Ground	
6	GND	Ground	
7	GND	Ground	
8	NC	No connection	(2)
9	SELLVDS	Select LVDS Format	(3)(4)
10	NC	NC	(2)
11	GND	Ground	
12	RX0-	Negative LVDS differential data input. Channel 0	
13	RX0+	Positive LVDS differential data input. Channel 0	
14	GND	Ground	
15	RX1-	Negative LVDS differential data input. Channel 1	
16	RX1+	Positive LVDS differential data input. Channel 1	
17	GND	Ground	
18	RX2-	Negative LVDS differential data input. Channel 2	
19	RX2+	Positive LVDS differential data input. Channel 2	
20	GND	Ground	
21	RXLCK-	Negative LVDS differential clock input.	
22	RXCLK+	Positive LVDS differential clock input.	
23	GND	Ground	
24	RX3-	Negative LVDS differential data input. Channel 3	
25	RX3+	Positive LVDS differential data input. Channel 3	
26	GND	Ground	
27	NC	No connection	(2)
28	NC	No connection	(2)
29	NC	No connection	(2)
30	GND	Ground	

Note (1) Connector type: (P-TWO=187053-30091 or FOXCONN=GS23302-1321S-7H)

LVDS connector pin order defined as follows



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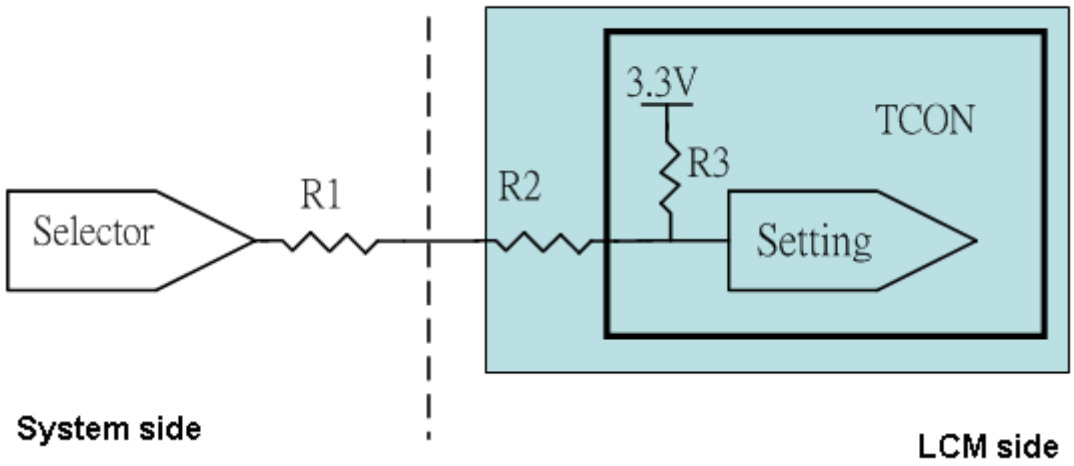
Note (2) Reserved for internal use. Please leave it open.

Note (3) LVDS data format Selection (0V~0.7V→VESA , 2.7V~3.3V/Open→JEDIA)

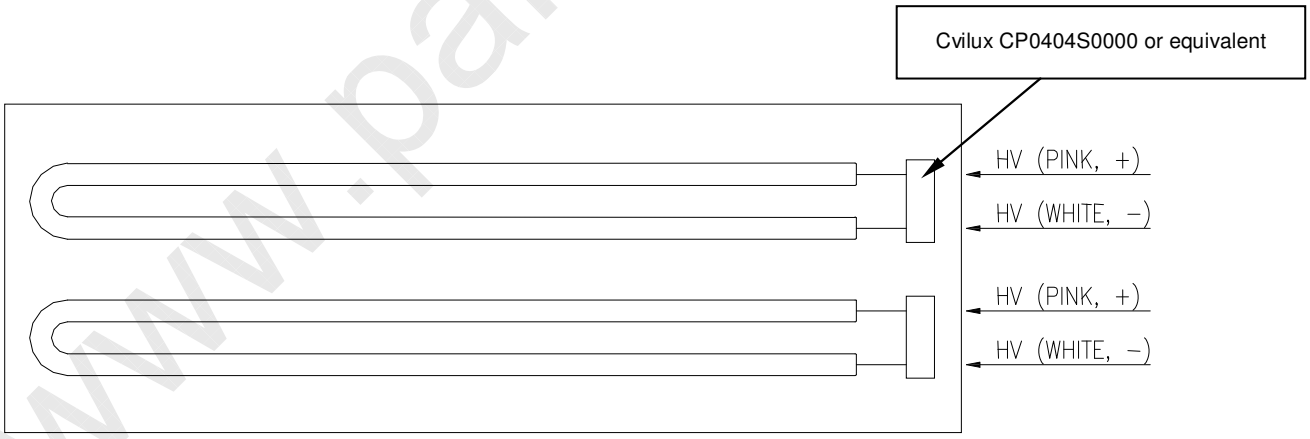
Note (4) LVDS signal pin connected to the LCM side has the following diagram. R1 in the system side should be less than 1K Ohm. (R1 < 1K Ohm)



Note (5) Suggested connector connected in series：JAE FI-X30HL (Japan Aviation Electronics Ind., LTD.)

5.2 BACKLIGHT UNIT

The pin configuration for the housing and the leader wire is shown in the table below.



Note: On the same side, the same polarity lamp voltage design for lamps is recommended.

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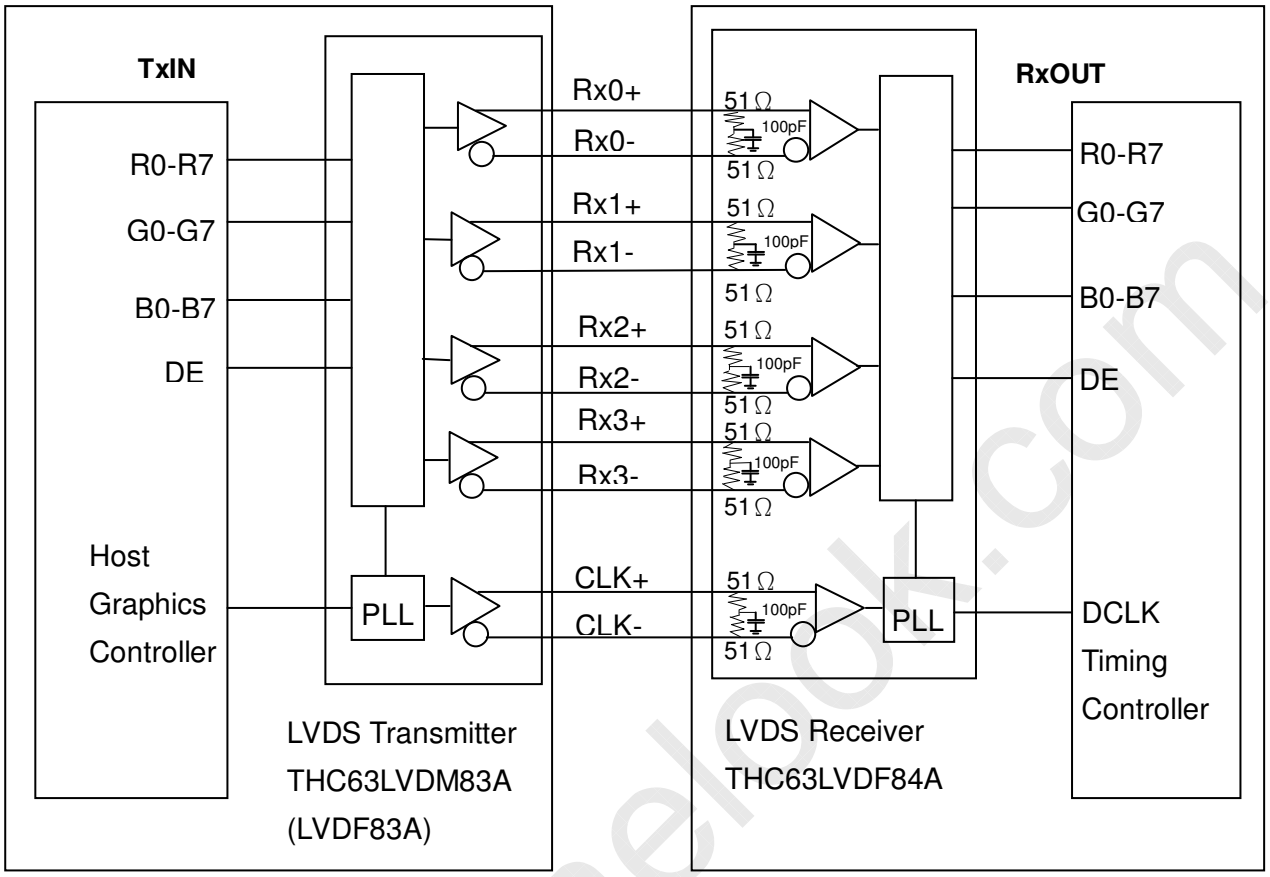
5.3 BLOCK DIAGRAM OF INTERFACE



R0~R7 : Pixel R Data
G0~G7 : Pixel G Data
B0~B7 : Pixel B Data
DE : Data enable signal
DCLK : Data clock signal

Note (1) The system must have the transmitter to drive the module.
Note (2) LVDS cable impedance shall be 50 ohms per signal line or about 100 ohms per twist-pair line when it is used differentially.

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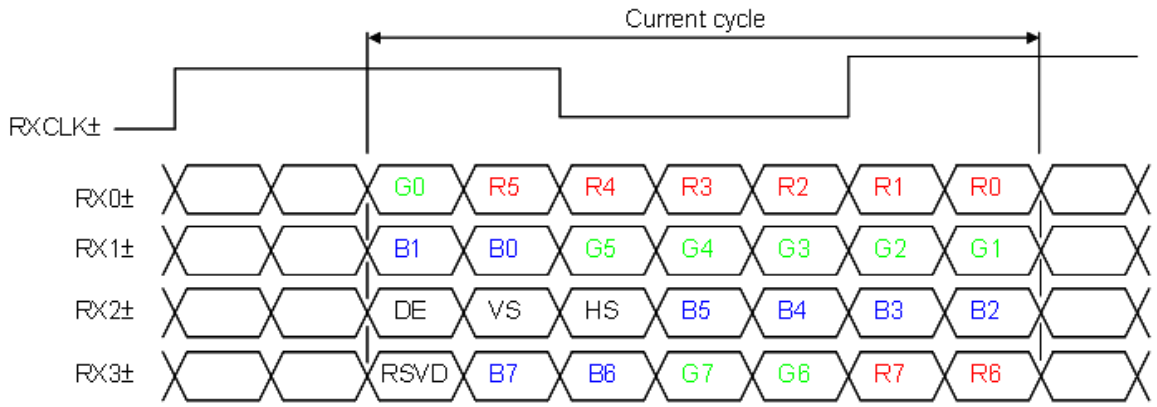
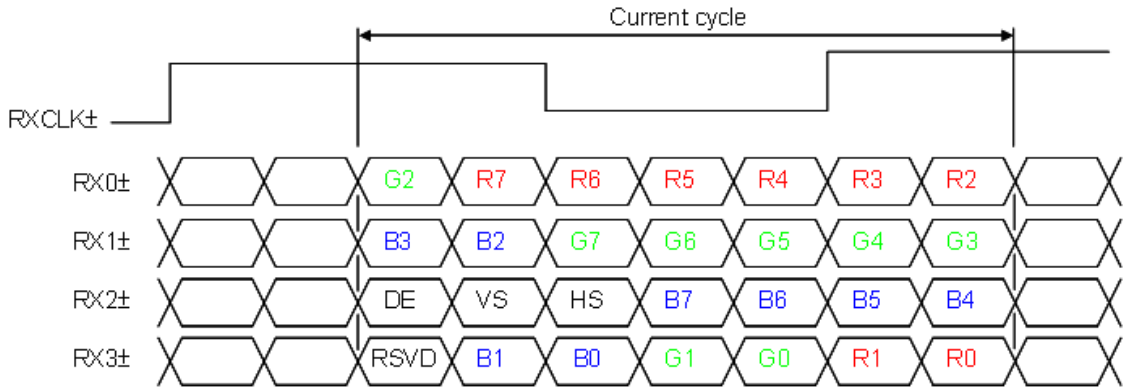
5.4 LVDS INTERFACE

VESA LVDS format：(SELLVDS pin= L)



JEDIA LVDS format：(SELLVDS pin= H or Open)



R0~R7 : Pixel R Data (7; MSB, 0; LSB)

G0~G7 : Pixel G Data (7; MSB, 0; LSB)

B0~B7 : Pixel B Data (7; MSB, 0; LSB)

DE : Data enable signal

DCLK : Data clock signal

Notes: (1) RSVD (reserved) pins on the transmitter shall be “H” or “L”.

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5.5 COLOR DATA INPUT ASSIGNMENT

The brightness of each primary color (red, green and blue) is based on the 8-bit gray scale data input for the color. The higher the binary input, the brighter the color. The table below provides the assignment of the color versus data input.

Color		Data Signal																							
		Red								Green								Blue							
		R7	R6	R5	R4	R3	R2	R1	R0	G7	G6	G5	G4	G3	G2	G1	G0	B7	B6	B5	B4	B3	B2	B1	B0
Basic Colors	Black	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Red	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Green	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
	Blue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
	Cyan	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Magenta	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
	Yellow	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
	White	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gray Scale Of Red	Red (0) / Dark	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Red (1)	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Red (2)	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
	Red (253)	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Red (254)	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Red (255)	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gray Scale Of Green	Green (0) / Dark	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Green (1)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	Green (2)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
	Green (253)	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0
	Green (254)	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0
	Green (255)	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
Gray Scale Of Blue	Blue (0) / Dark	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Blue (1)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	Blue (2)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
	Blue (253)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1
	Blue (254)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0
	Blue (255)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1

Note (1) 0: Low Level Voltage, 1: High Level Voltage

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6. INTERFACE TIMING

6.1 INPUT SIGNAL TIMING SPECIFICATIONS

(Ta = 25 ± 2 ºC)

The input signal timing specifications are shown as the following table and timing diagram.

Signal	Item	Symbol	Min.	Typ.	Max.	Unit	Note
LVDS Receiver Clock	Frequency	F_{clkin} (=1/TC)	67.67	76	82	MHz	
	Input cycle to cycle jitter	T_{rcl}	—	—	200	ps	(2)
	Spread spectrum modulation range	F_{clkin_mod}	F_{clkin}-2%	—	F_{clkin}+2%	MHz	(3)
	Spread spectrum modulation frequency	F_{SSM}	—	—	200	KHz	
LVDS Receiver Data	Setup Time	Tlvsu	600	—	—	ps	
	Hold Time	Tlvhd	600	—	—	ps	
Vertical Active Display Term	Frame Rate	F_{r5}	47	50	53	Hz	
		F_{r6}	57	60	63	Hz	
	Total	Tv	776	806	1050	Th	Tv=Tvd+Tvb
	Display	Tvd	768	768	768	Th	
	Blank	Tvb	8	38	282	Th	
Horizontal Active Display Term	Total	Th	1530	1560	2006	Tc	Th=Thd+Thb
	Display	Thd	1366	1366	1366	Tc	
	Blank	Thb	164	194	640	Tc	

Note (1) Please make sure the range of frame rate has follow the below equation :

Fclkin(max) ≧ Fr6 × Tv × Th

Fr5 × Tv × Th ≧ Fclkin(min)

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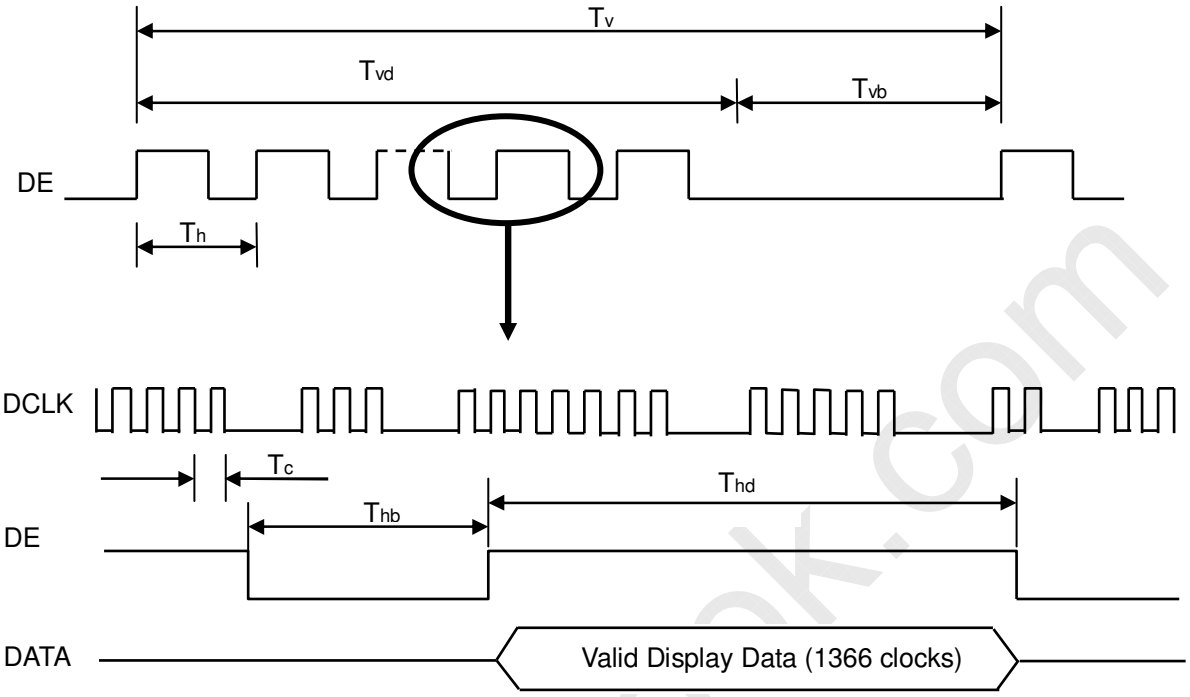
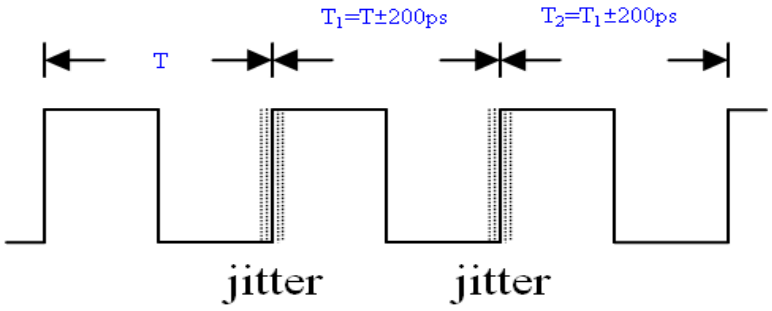
Note (2) This module is operated in DE only mode and please follow the input signal timing diagram below :

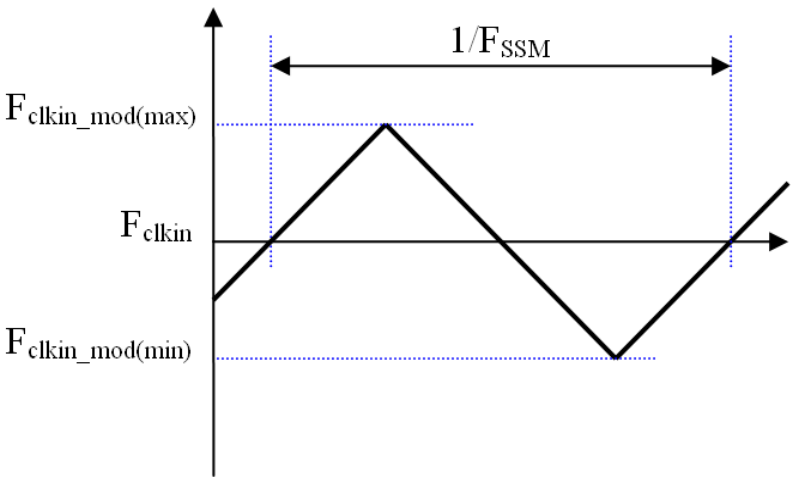
INPUT SIGNAL TIMING DIAGRAM



Note (3) The input clock cycle-to-cycle jitter is defined as below figures. Trcl = I T_1 – TI



Note (4) The SSCG (Spread spectrum clock generator) is defined as below figures.



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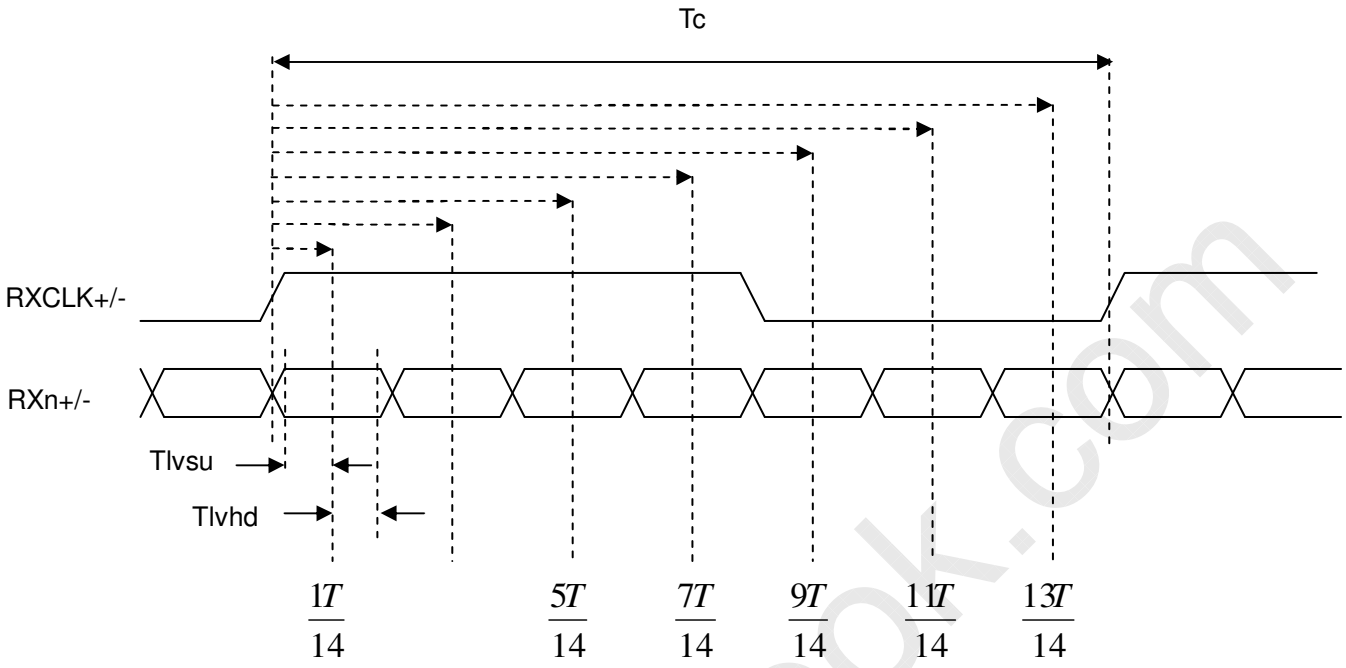
Note (5) The LVDS timing diagram and setup/hold time is defined and showing as the following figures.

LVDS RECEIVER INTERFACE TIMING DIAGRAM



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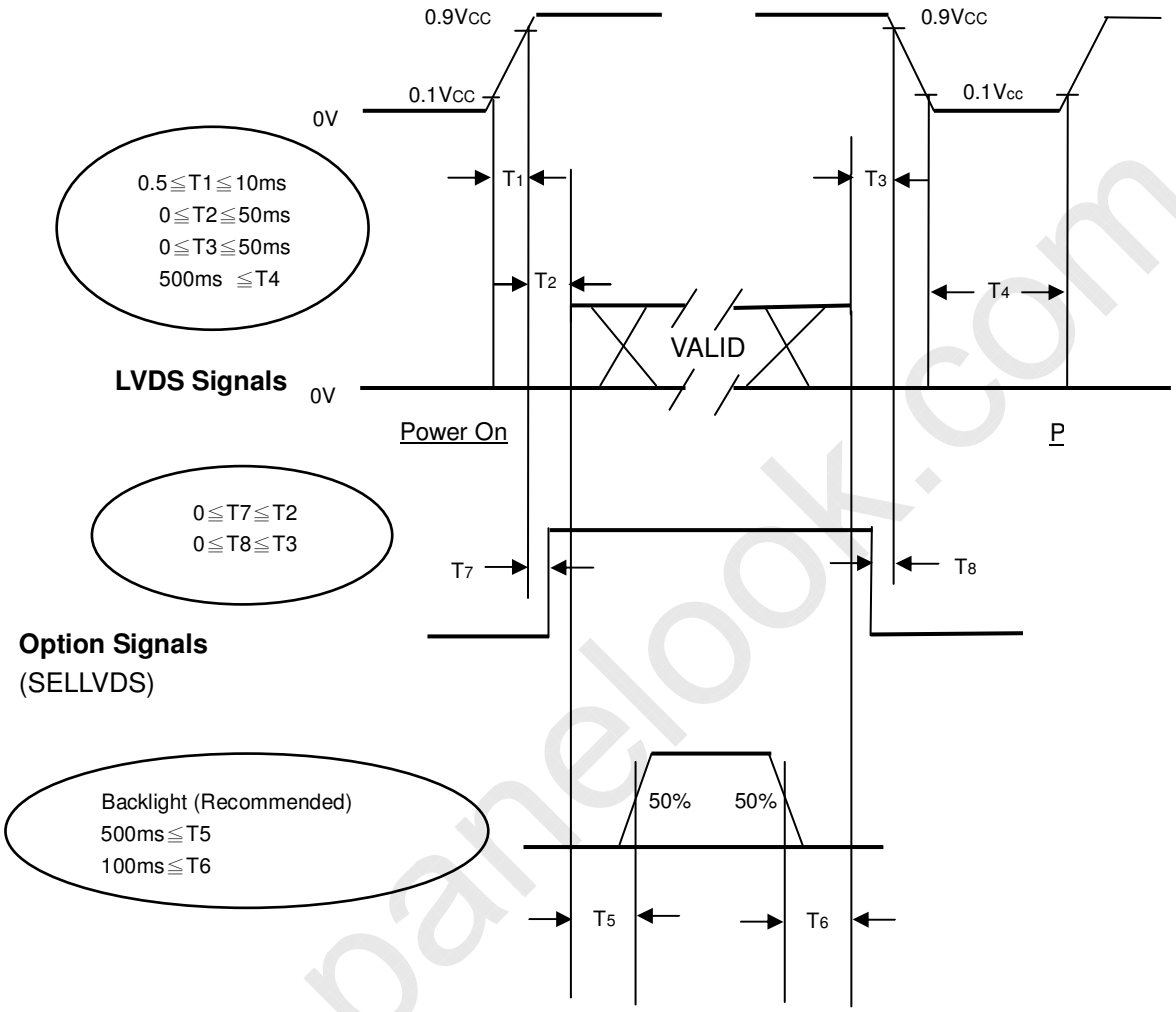
6.2 POWER ON/OFF SEQUENCE

(Ta = 25 ± 2 ºC)

To prevent a latch-up or DC operation of LCD module, the power on/off sequence should be as the diagram below.



Power ON/OFF Sequence

Note (1) The supply voltage of the external system for the module input should follow the definition of Vcc.

Note (2) Apply the lamp voltage within the LCD operation range. When the backlight turns on before the LCD operation or the LCD turns off before the backlight turns off, the display may momentarily become abnormal screen.

Note (3) In case of VCC is in off level, please keep the level of input signals on the low or high impedance.

Note (4) T4 should be measured after the module has been fully discharged between power off and on period.

Note (5) Interface signal shall not be kept at high impedance when the power is on.

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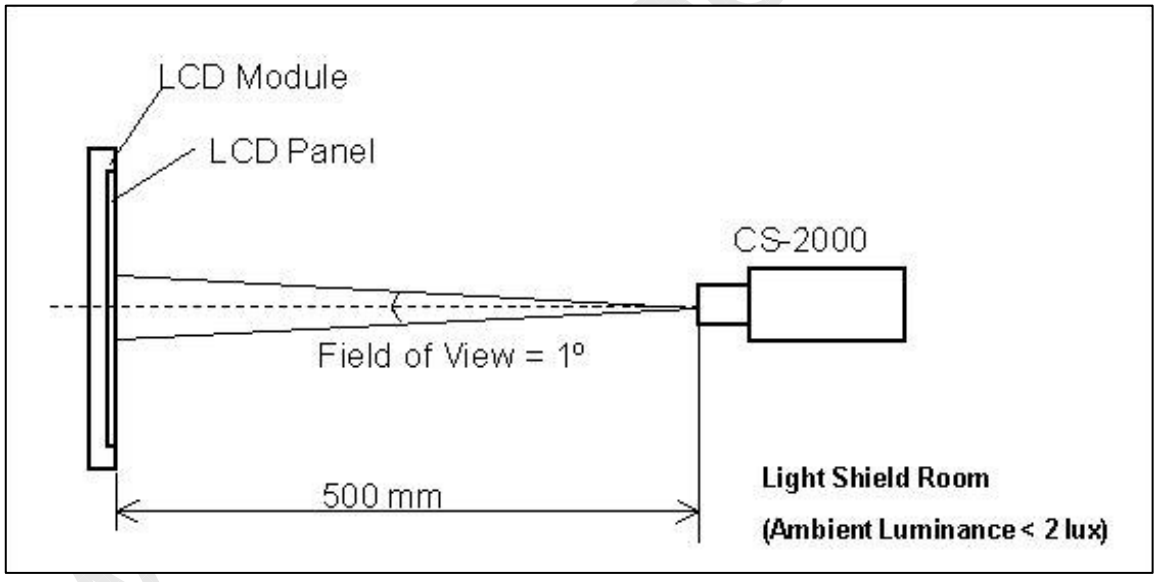
7. OPTICAL CHARACTERISTICS

7.1 TEST CONDITIONS

Item	Symbol	Value	Unit
Ambient Temperature	Ta	25±2	°C
Ambient Humidity	Ha	50±10	%RH
Supply Voltage	VCC	12V	V
Input Signal	According to typical value in "3. ELECTRICAL CHARACTERISTICS"		
Lamp Current	IL	12.5±0.5	mA
Oscillating Frequency (Inverter)	FW	58±3	KHz
Vertical Frame Rate	Fr	60	Hz

The LCD module should be stabilized at given temperature for 1 hour to avoid abrupt temperature change during measuring in a windless room.



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7.2 OPTICAL SPECIFICATIONS

The relative measurement methods of optical characteristics are shown in 7.2. The following items should be measured under the test conditions described in 7.1 and stable environment shown in 7.1.

Item		Symbol	Condition	Min.	Typ.	Max.	Unit	Note
Contrast Ratio		CR	θx=0°, θy =0° Viewing angle at normal direction	2000	3000	-	-	(2)
Response Time		Gray to gray		-	8.5	20	ms	(3)
Center Luminance of White		L_C		200	250	-	cd/m^2	(4)
White Variation		δW		-	-	1.42	-	(6)
Cross Talk		CT		-	-	4.0	%	(5)
Color Chromaticity	Red	Rx		Typ -0.03	0.643	Typ +0.03	-	-
		Ry			0.331		-	
	Green	Gx			0.275		-	
		Gy			0.603		-	
	Blue	Bx			0.145		-	
		By			0.063		-	
	White	Wx			0.280		-	
		Wy			0.290		-	
	Color Gamut	C.G		-	72	-	%	NTSC
Viewing Angle	Horizontal	θx+	CR≥20	80	88	-	Deg.	(1)
		θx-		80	88	-		
	Vertical	θY+		80	88	-		
		θY-		80	88	-		

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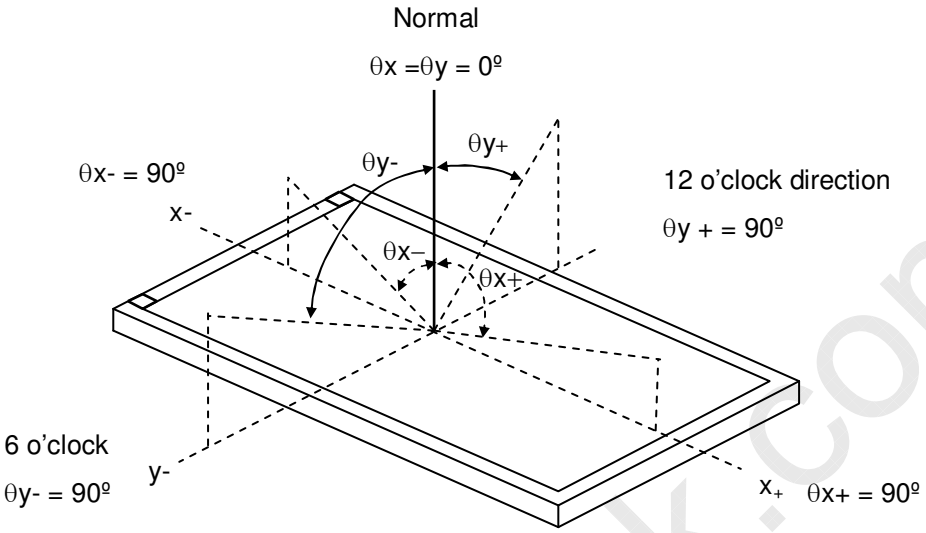
Note (1) Definition of Viewing Angle (θx, θy) :

Viewing angles are measured by Conoscope Cono-80.



Note (2) Definition of Contrast Ratio (CR) :

The contrast ratio can be calculated by the following expression.

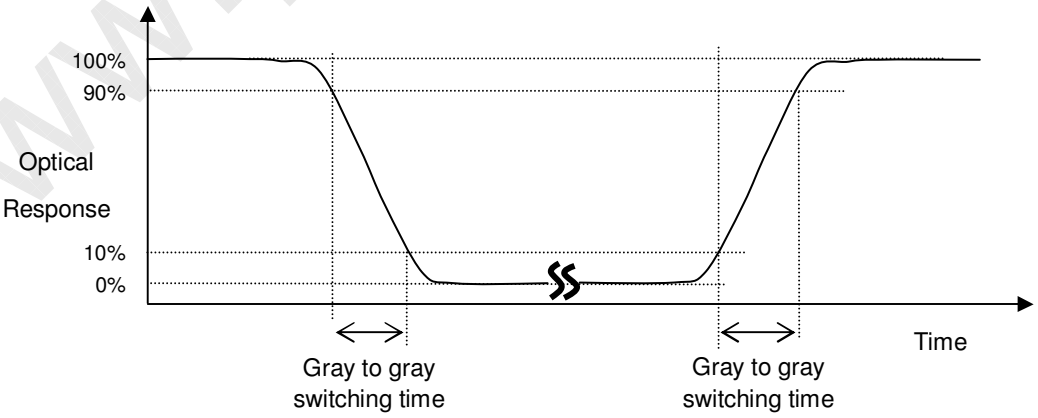
$$\text{Contrast Ratio (CR)} = \frac{\text{Surface Luminance of L255}}{\text{Surface Luminance of L0}}$$

L255: Luminance of gray level 255

L 0: Luminance of gray level 0

CR = CR (5), where CR (X) is corresponding to the Contrast Ratio of the point X at the figure in Note (6).

Note (3) Definition of Gray-to-Gray Switching Time:



The driving signal means the signal of gray level 0, 31, 63, 95, 127, 159, 191, 223, 255.

Gray to gray average time means the average switching time of gray level 0, 31, 63, 95, 127, 159, 191, 223, 255. to each other.

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Note (4) Definition of Luminance of White (L_C):

Measure the luminance of gray level 255 at center point and 5 points

L_C = L (5), where L (X) is corresponding to the luminance of the point X at the figure in Note (6).

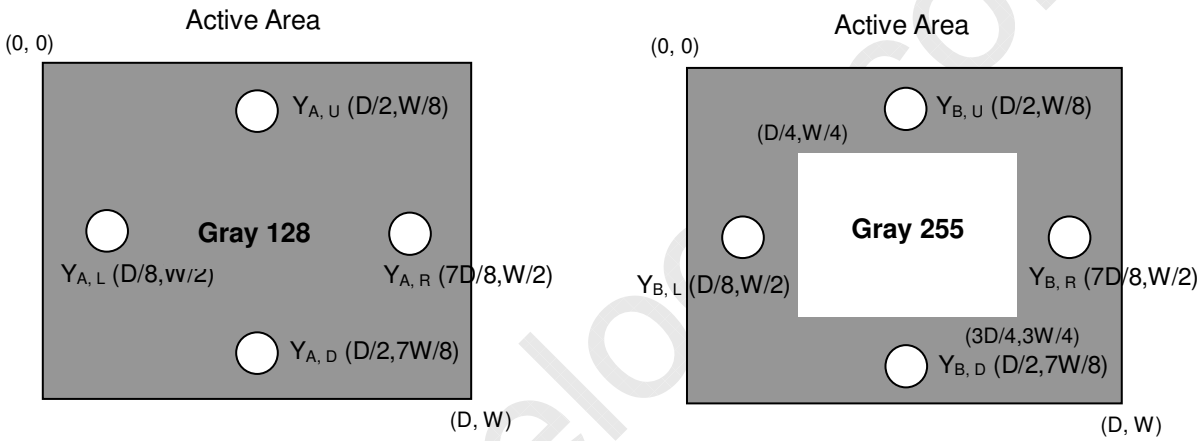
Note (5) Definition of Cross Talk (CT):

$CT = | Y_B - Y_A | / Y_A \times 100$ (%)

Where:

Y_A = Luminance of measured location without gray level 255 pattern (cd/m2)

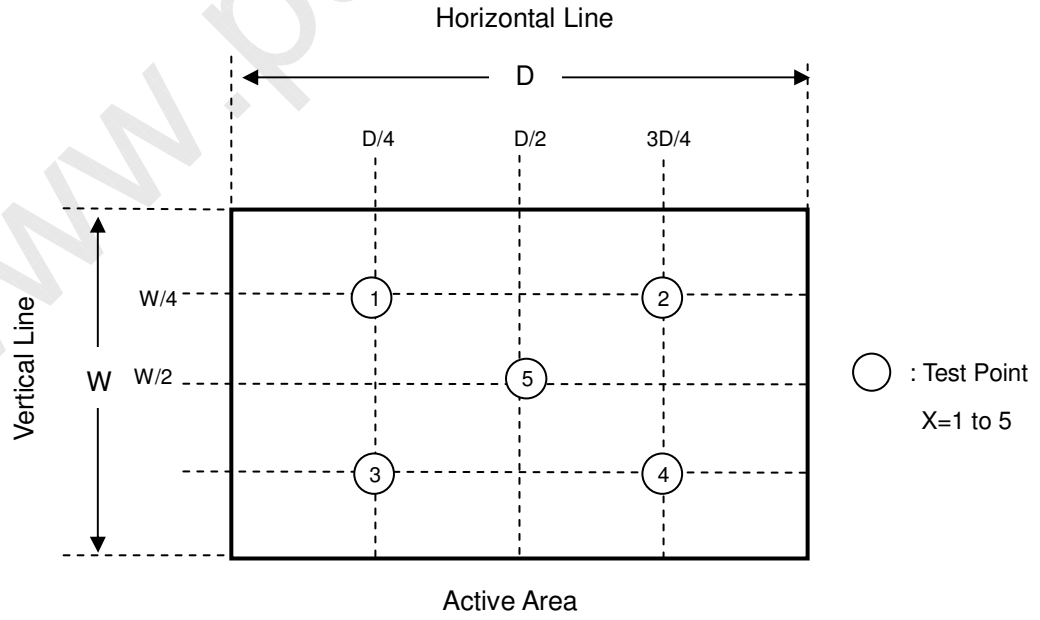
Y_B = Luminance of measured location with gray level 255 pattern (cd/m2)



Note (6) Definition of White Variation (δW):

Measure the luminance of gray level 255 at 5 points

δW = Maximum [L (1), L (2), L (3), L (4), L (5)] / Minimum [L (1), L (2), L (3), L (4), L (5)]



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8. PRECAUTIONS

8.1 ASSEMBLY AND HANDLING PRECAUTIONS

[1] Do not apply rough force such as bending or twisting to the module during assembly.

[2] It is recommended to assemble or to install a module into the user's system in clean working areas. The dust and oil may cause electrical short or worsen the polarizer.

[3] Do not apply pressure or impulse to the module to prevent the damage of LCD panel and Backlight.

[4] Always follow the correct power-on sequence when the LCD module is turned on. This can prevent the damage and latch-up of the CMIS LSI chips.

[5] Bezel of Set can not press or touch the panel surface. It will make light leakage or scrape.

[6] Do not plug in or pull out the I/F connector while the module is in operation.

[7] Do not disassemble the module.

[8] Use a soft dry cloth without chemicals for cleaning, because the surface of polarizer is very soft and easily scratched.

[9] Moisture can easily penetrate into LCD module and may cause the damage during operation.

[10] When storing modules as spares for a long time, the following precaution is necessary.

[10.1] Do not leave the module in high temperature, and high humidity for a long time. It is highly recommended to store the module with temperature from 0 to 35℃ at normal humidity without condensation.

[10.2] The module shall be stored in dark place. Do not store the TFT-LCD module in direct sunlight or fluorescent light.

[11] When ambient temperature is lower than 10ºC, the display quality might be reduced. For example, the response time will become slow, and the starting voltage of CCFL will be higher than that of room temperature.

8.2 SAFETY PRECAUTIONS

[1] The startup voltage of a Backlight is approximately 1000 Volts. It may cause an electrical shock while assembling with the inverter. Do not disassemble the module or insert anything into the Backlight unit.

[2] If the liquid crystal material leaks from the panel, it should be kept away from the eyes or mouth. In case of contact with hands, skin or clothes, it has to be washed away thoroughly with soap.

[3] After the module's end of life, it is not harmful in case of normal operation and storage.

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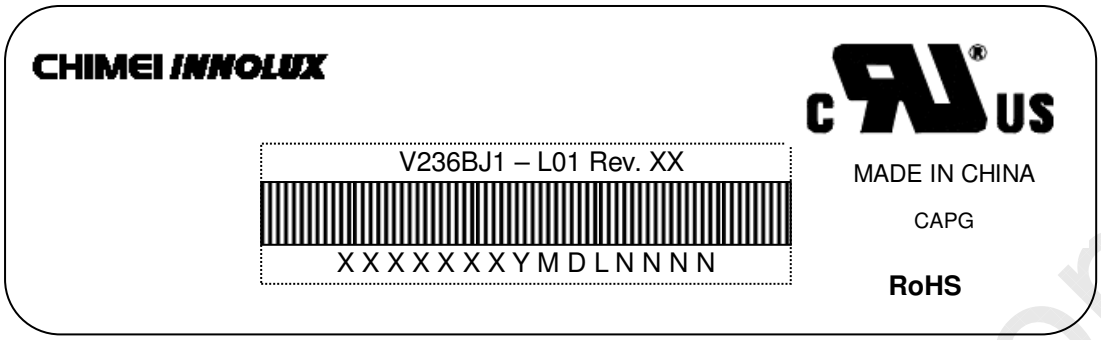
9. DEFINITION OF LABELS

9.1 CMI MODULE LABEL

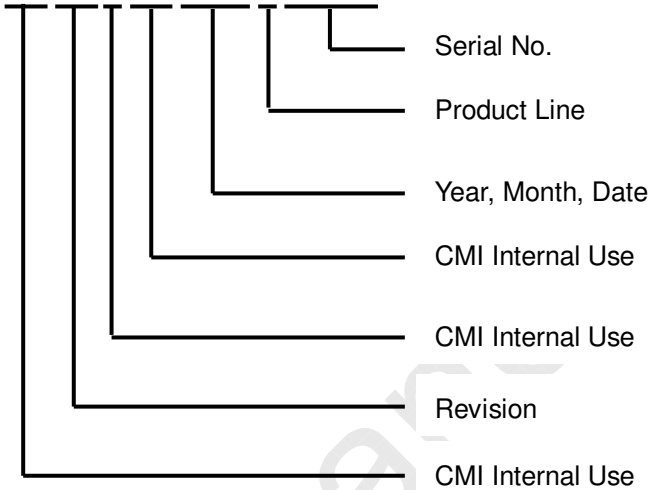
The barcode nameplate is pasted on each module as illustration, and its definitions are as following explanation.



Model Name: V236BJ1-L01

Revision: Rev. XX, for example: A0, A1… B1, B2… or C1, C2…etc.

Serial ID: X X X X X X Y M D L N N N N



Serial ID includes the information as below:

Manufactured Date:

Year : 2001=1, 2002=2, 2003=3, 2004=4…2010=0, 2011=1, 2012=2…

Month: 1~9, A~C, for Jan. ~ Dec.

Day: 1~9, A~Y, for 1st to 31st, exclude I ,O, and U.

Revision Code : Cover all the change

Serial No. : Manufacturing sequence of product

Product Line : 1 → Line1, 2 → Line 2, …etc.

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10. PACKAGING

10.1 PACKAGING SPECIFICATIONS

(1) 4 LCD TV modules / 1 Box

(2) Box dimensions : 620(L) x 346(W) x 390(H)mm

(3) Weight : approximately 11.5 Kg (4 modules per box)

10.2 PACKAGING METHOD

Figures 10-1 and 10-2 are the packing method

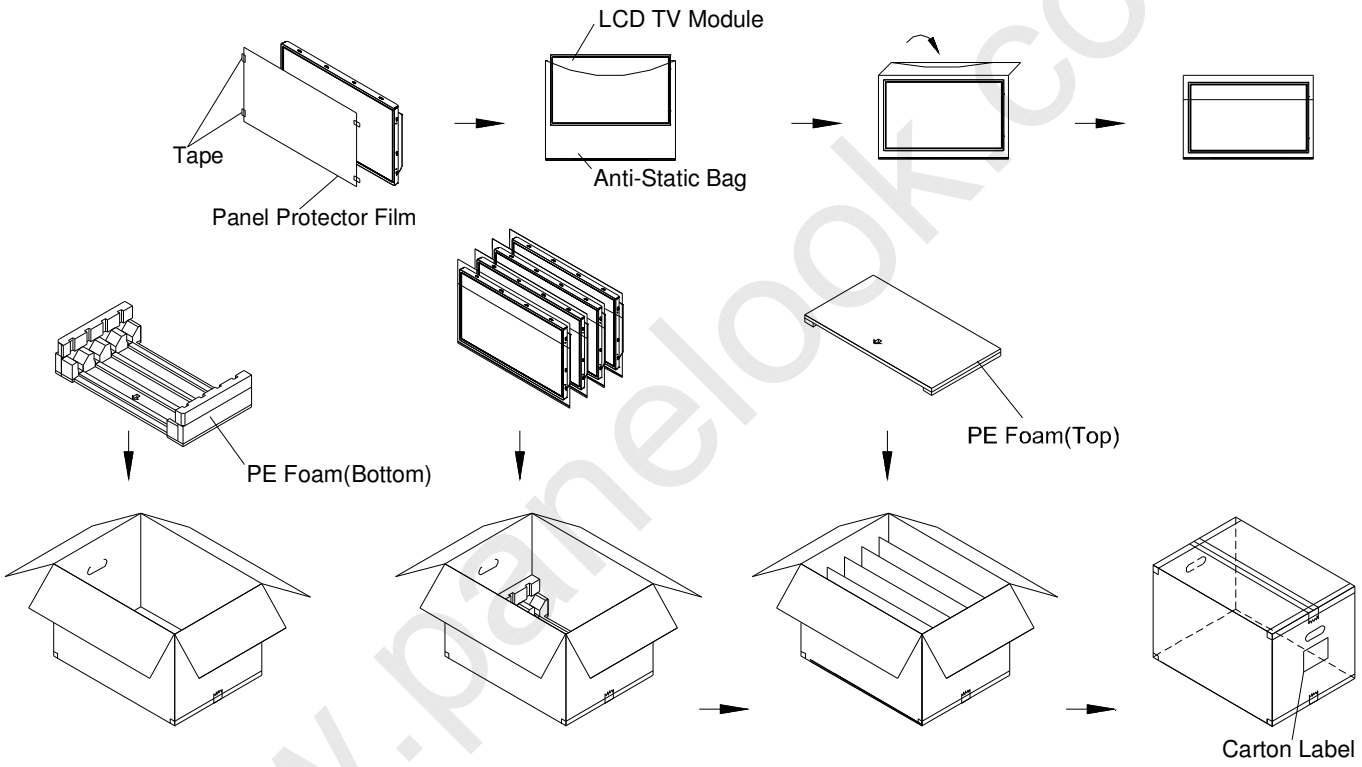

Figure 10-1 packing method

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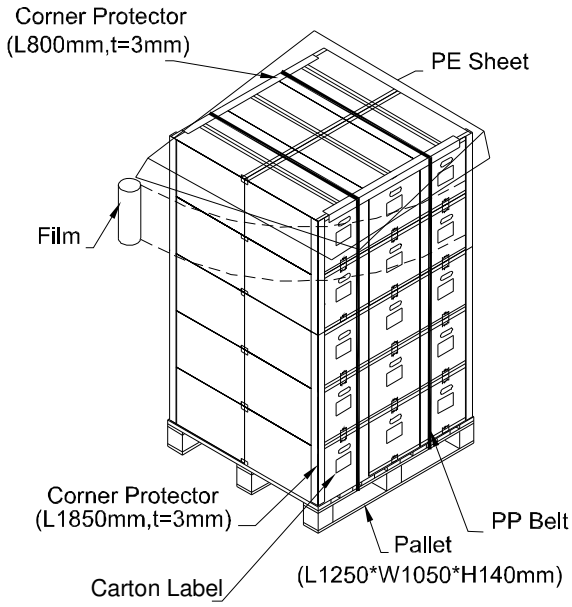
Sea / Land Transportation
(40ft Container)



Air Transportation

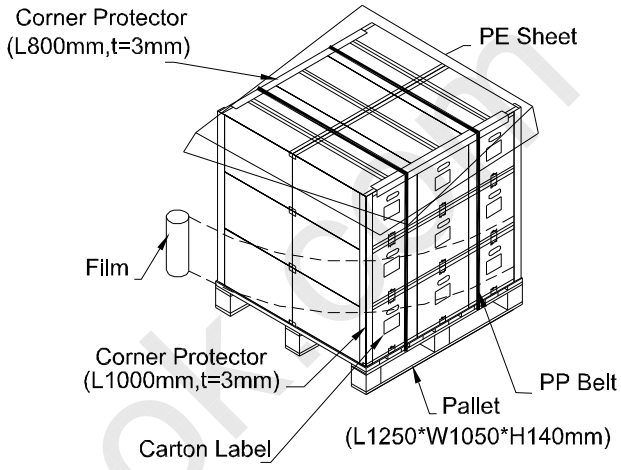


Figure 10-2 packing method

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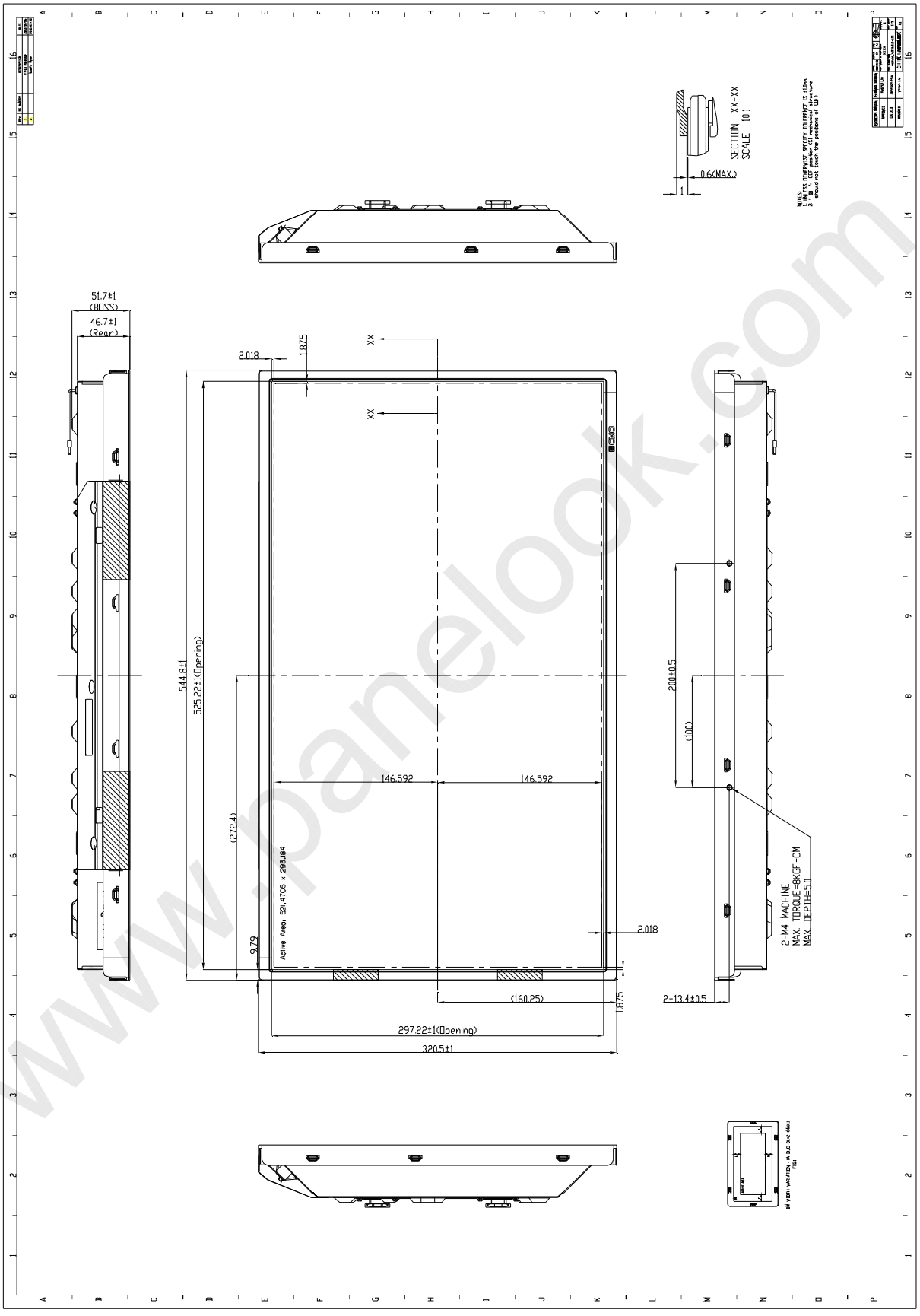
11. MECHANICAL CHARACTERISTIC



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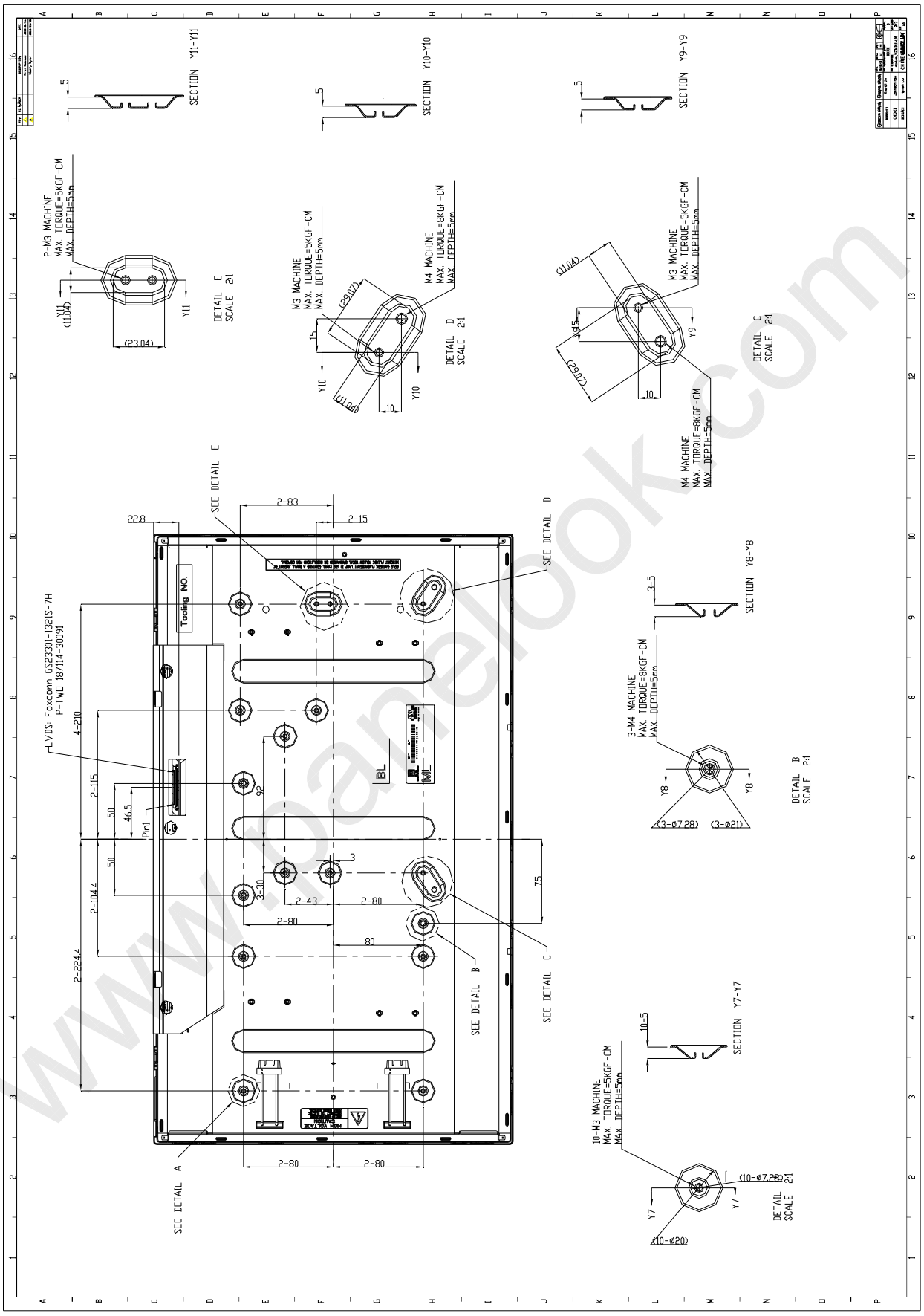

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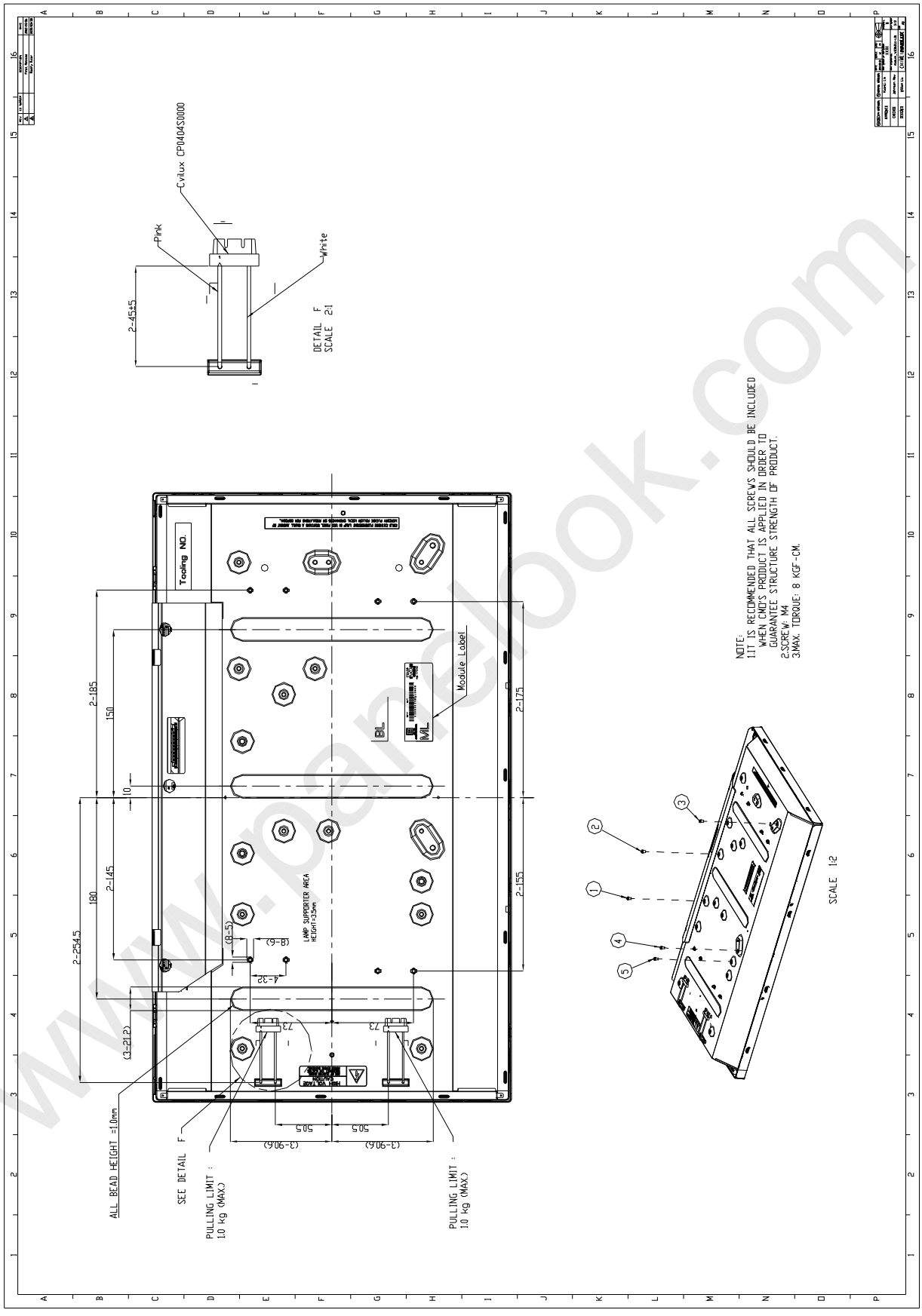

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